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## Coffee can connects rural world to Internet

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Two weeks ago Agnes Mdluli, who works at a local Aids centre in rural South Africa, had no access to the Internet. Today, thanks to a coffee can and a bicycle spoke, she is able to make voice over IP calls and research the Web for HIV/Aids information.

The [Meraka Institute's first "cantenna"](#) was installed on to Mdluli's house earlier this month.

The can-antenna is made from a metal can, such as a coffee tin, and a section of bicycle spoke soldered into a special connector which can connect to another point with a similar antenna up to 5km away.

Mdluli, a health worker from Peebles valley, near White River in Mpumalanga, was given priority because she works at the Aids care training and support (ACTS) clinic in the area.

The cantenna project in Peebles Valley is one of 10 sub-projects in the First Mile First Inch (FMFI) project being funded by the International Development Research Centre (IDRC). The Meraka Institute is in charge of the technical development as part of its Community Owned Information Network (COIN) initiative under the Wireless Africa project banner.

The small self-constructed can-antennas are made from locally available material and are connected to a low-cost WiFi card plugged into a computer. A small wireless router is placed in a weatherproof casing on a pole to which several community members could connect and form a community mesh network. This mesh networking technology allows the wireless installations to automatically configure themselves to find the optimal routes through the network and very little configuration is needed to set them up.

Mdluli's clinic cares mostly for HIV/Aids patients from the area and surrounding villages and townships and now she will be able to make voice over Internet Protocol (VoIP) calls to health workers across the country. Peebles valley, also known as the Masoyi tribal

area is a poor community of some 220 000 people where it is estimated that 33 percent of the sexually active population is HIV-positive.

Meraka's david Johnson said "imagine the difference this will make in terms of accessing information and gaining knowledge." Johnson also said training will also be offered to teach the community how to construct their own cantennas, set up a wireless router and connect it to a computer.

Perhaps the most excited was Mdluli's teenage daughter who said "I cannot believe that I'm surfing the net from my own home!".